

AMERICAN VETERINARY REVIEW.

PUBLISHED BY THE
UNITED STATES
VETERINARY MEDICAL ASSOCIATION.

EDITED BY A. LIAUTARD, M.D., V.S.,

ASSISTED BY
A NUMBER OF SELECTED VETERINARIANS.

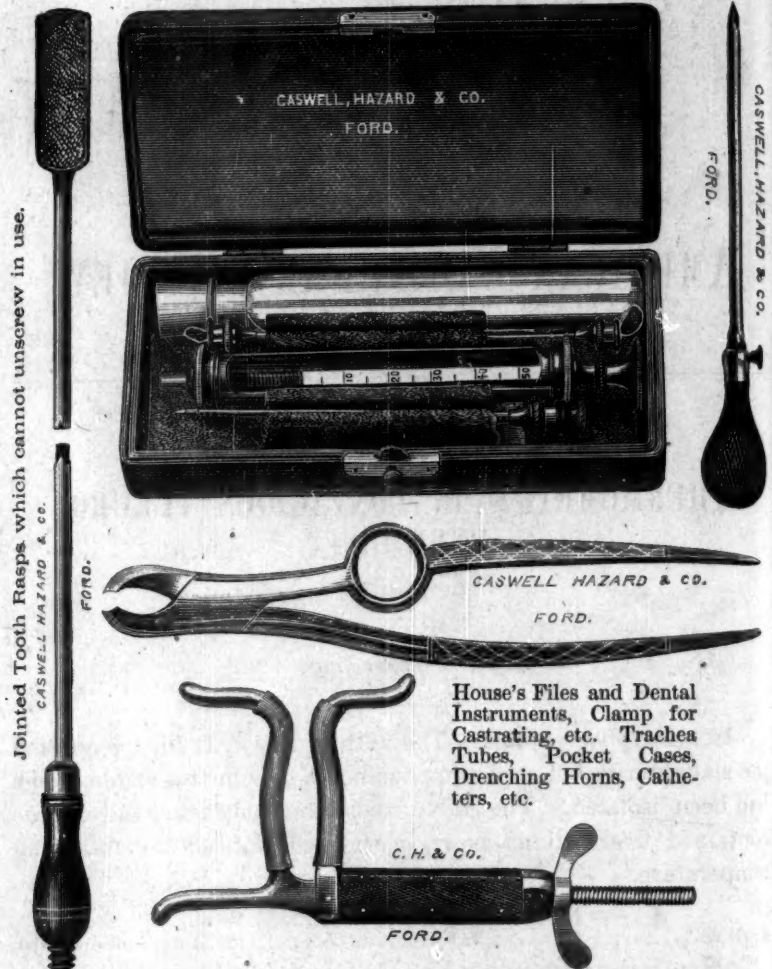


JULY, 1879.

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AMERICAN VETERINARY REVIEW,

JULY, 1879.

ORIGINAL ARTICLES.

THERMOMETRY IN CONTAGIOUS PLEURO-PNEUMONIA.

By E. DELE.*

(Continued from page 108.)

1st. *Podwyn's Stable*.—The 26th of April, 1876, I requested the slaughtering of a pleuro-pneumonia cow in this stable. She had been isolated. The stable where she contracted the disease contained five milking cows, in which I noticed the following temperature.

	Cow No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
April 26.....	39.0.....	37.5.....	37.5.....	not observed.	
" 27.....	40.4.....	37.7.....	38.2.....	" "	
" 28.....	37.8.....	40.9.....	37.8.....	37.8.....	" "
" 29.....	37.9.....	41.3.....	38.0.....	38.0.....	" "
May 1.....	37.5.....	40.5.....	38.0.....	38.1.....	" "
" 5.....	37.5.....	40.8.....	37.5.....	38.0.....	" "

Cow No. 2 was destroyed as pleuro-pneumonic on the fifth of May; the others, inoculated with success, remained healthy to this day.

2d. The 4th of May, 1876, at Verstræten's stable I found

*Translated by A. Liautard, M.D., V.S.

amongst nine cows, one which presented suspicious symptoms of pleuro-pneumonia; her temperature was 40° . She was killed. In the others the thermometer varied between 37.5° and 38.5° . Inoculated, the operation was successful with six.

3d. The 24th of May, 1876, I visited at Keeten, stables infected with pleuro-pneumonia. In one of the sheds, where several animals had died with the disease, a cow thought suspicious by the owner had been placed the morning of my visit. In her, neither my companion Mr. Buerts, Veterinary Surgeon, nor I, could find any symptoms of the disease. We then took her temperature, it was raised to 40° ; certainly the disease would soon be manifest.

4th. The 26th of May, 1876, I was called at Borgerhout to decide if a cow was affected with pleuro-pneumonia. She was down and unable to get up; and, therefore, auscultation and percussion being impossible, I took her temperature in the rectum. It registered 38° , and I concluded that the animal had not the disease, as proved the next day at post mortem.

5th. The 11th of June, 1876, a cow was sick at Anvers. Another had been killed three weeks before; I had her lungs exhumed and satisfied myself by examination that she had died with the disease. I had no doubt that the animal in front of me had pleuro-pneumonia. I could not doubt it when her temperature marked 40.5° . Two other cows which had been tied with her had a temperature of 38.9° and 38.3° . The first cow was killed and showed the lesions in the lungs. The other two are yet healthy, but I fear they will ultimately succumb to the disease—they were not inoculated.

Without mentioning other observations, I think from the above the following conclusions can be admitted.

1st. When a bovine shows a temperature of 38.9° to the maximum, pleuro-pneumonia is not to be feared.

2d. If, in a herd which had been exposed to contagion, an animal shows a temperature of 40° or above, she is suspected and must be isolated.

3d. In an infected herd, the bovine animal in which the thermometer shows 40° or above will *probably* contract the disease.

I say *probably*, for the high temperature may indicate the invasion of another febrile disease.

Of course these conclusions are somewhat incomplete.

This part of my paper was submitted to the Academy of Medecine in June, 1876, and it was plain, in reading it, that I was a partisan of thermometry as means of diagnosis of pleuro-pneumonia, in bovines which had been exposed to the contagion but presented as yet no other symptoms.

It is in Mr. Brown's reports to the Privy Council that the use of this means of diagnosis is recommended, and in a circular of the sixteenth of January, 1874, that it is indicated as already reported.*

This measure was so severe and important that I took the resolution to experiment on the means of diagnosis thereto indicated.

First, I will observe that a weekly visit is insufficient; visits must be more frequent, if one desires to protect healthy animals from contagion. Before relating my numerous observations, I may present some notes found amongst my journals.

Mr. Fleming, editor of the *Veterinary Journal*, advises to introduce the instrument in the rectum to a depth of one decimeter, and to leave it about five minutes. In the vagina he has observed a difference of less than 0.2° to 0.5° , a difference, which, according to Gerlach, is about 1° . Mr. Fleming found also a difference between the morning and the evening, or after exercise. He gives for normal temperature, 38.5° for the bull, 39.25° for the cow, 39.5° for the calf. The *Veterinarian* of 1869 publishes an article from Dr. Richardson, which fixes the temperature in the ox to 101° Fah. He says that an increase of the temperature of a warm blooded animal is fatal at 11° or 12° Fah., and that he never saw a case of recovery after an increase of 12° . In this paper, no more than in that of Mr. Fleming, it is not a question of pleuro-pneumonia. In the same journal, in 1870, two other articles on the same subject are found.

In the first is reproduced an article from Mr. Mayor. The observations reported are on the horse, and speak of the effects of

*June number AMERICAN VETERINARY REVIEW, p. 108.

some drugs on the temperature of the body. In the discussions following, Mr. Armatage guards against the confusion between the elevation of the temperature caused by drugs and that resulting from certain diseases. There is elevation of temperature after exercise, after meal when the animal is at rest.

The remarks of Mr. Armatage were published under the title: "The Thermometer as a Means of Diagnosis in Veterinary Medicine." In that discussion Mr. Hunting called the attention upon the different indications furnished by two thermometers of the same make, a fact which may be a source of errors.

The second article reproduces a paper from Mr. Poyser, *upon the thermometry in pleuro-pneumonia*. It was only after Mr. Gamgee had recommended the use of the instrument in rinderpest, that Mr. Poyser used it in pleuro-pneumonia. In both of these diseases there is an elevation of temperature, as in all inflammatory diseases: but it is not so great in sporadic as in zymotic diseases. According to Mr. Poyser, the thermometer is a sure aide-diagnostic to distinguish contagious pleuro-pneumonia from sporadic affections, with which it is often confounded.

During the last period of the penetration of the virus in the economy, many changes take place: inflammatory fever gradually appears, and during eight or ten days it seems to stimulate all the functions; the fever takes hold of the whole organism, as indicated by a slight increase of temperature. Though the cow feeds well, milks as usual and presents a normal temperature, there is a little bronchial irritation, characterized by a cough becoming daily more frequent. Mr Poyser doubts not, that, during that inflammatory stage, generally increasing, the animal has accesses of chills indicating progress of the disease, which increases rapidly and in such a degree that at a given time the disease is recognized by everybody; only then is the veterinarian called. He then notices that the skin of the animal is dry, that he is agitated, anxious, that his respiration is accelerated, his pulse not full, as says Mr. Fleming, but small and frequent, eighty per minute, that the milk is reduced more or less, etc., etc.

"If," says the author, "one has the opportunity to examine an animal sixteen days before those signs are manifest, he will find

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that, where the animal is not out to pasture, the thermometer will register 103° or 104° Fah. In this state there will be also anxiety, cough, the skin will be shying. But all well considered, there will be signs of elevation of temperature due to an inflammatory condition, having its seat in the thoracic cavity. When the thermometrical examination is made on the first day, it is found that 104°, 105° Fah. is often registered; according to the intensity of the attack, the time where the visit is made, the age of the animal, whether the animal is in or out of doors, whether it is in winter or in summer. From that time to the complete development of the disease the temperature increases daily so as to reach 107°, 108° Fah. in the vagina, or even 109° in the rectum. I will add that, as maximum of temperature, I have obtained 107° Fah. in the vagina, and have seldom seen animals in these conditions recover.

"In the sporadic form of pleuro-pneumonia, in gastro-bronchitis, in pneumonia, bronchitis, pleuresy, gastritis, gastro-enteritis, and similar diseases, though the temperature may be very high, I never found a temperature above 104°, 105° Fah. in the vagina. Consequently, no matter how alarming the symptoms may be, if the temperature does not go above 105° Fah. it is easy to conclude that there is no pleuro-pneumonia present. As soon as there is a noticeable lowering in the temperature, it may be presumed that the period of increase is ended; the whole organism is infected. there is a kind of rest in the vital activity. If the economy is not too much exhausted, and the organic alterations not too advanced, nature tends to a restoration; if not, the vitality diminishes, the molecular inertic prevails and the animal ends in succumbing. In both cases there is a gradual diminution of temperature, not as rapid however when there is a return to health as when the disease has a tendency to fatal termination. In cases of recovery, as soon as the vital power is somewhat restored, nature begins to rid itself, by excretion, of the products of the disease; excretion which, I think, continues for three months. It is then that, in my opinion, there is danger; it is then the period of infection, of contamination *par excellence*."

To end this borrowed citation I may report the analysis made

by Mr. Fleming in the *Veterinary Journal*. It relates more specially to the horse, and the author indicates the influence of age, sex, food, exercise, external temperature, of clipping and bleeding upon the internal temperature. He says "Cow of nine years (thirty-ninth observation), average temperature 38.9° C. or 102° Fah. (Krabbe gives 38.8° and Davy 38.9.) Compared to that of the horse, the diurnal variation was slight. The minimum temperature observed at midnight was 38.7, and the maximum temperature at five o'clock, 39.1° or 102.3° Fah. Food had no influence." Siedamgrotzky makes the following wise remarks, "The temperature of the body depends on the quantity of heat produced and that consumed." Greater will the production of heat be and smaller the consumed quantity, more will the temperature of the body be elevated. Even with an increase of the heat, the temperature of the body will be but little raised if the consumed quantity is great. The principal regulators of the temperature of the body are the epidermis, the hairs, etc., etc.

(To be continued.)

IDENTITY IN DISEASES.

BY F. S. BILLINGS.

The reflecting peruser of veterinary literature must be often astonished at the freedom with which some words are used by various writers, *used with an entire want of comprehension of their meaning*. Such a one is "Identical."

In the very brief abstract, which we have had the pleasure of presenting to our readers, from the Report of the Bavarian Minister to his Government with reference to the extension of tuberculosis among the cattle of that kingdom, appears the following words,—their connection may be seen in the abstract: "*according to which no more doubt can remain of the identity of the so-often-appearing 'Perlsucht,' 'Tuberculosis,' of cattle, with the disease of the same name of man.*" And in the *Veterinary Journal*, Vol. 6, page 20, may be seen an article from the

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German entitled "Histology of the Mammary Gland of the Cow, etc.," to which the translator attached the following footnote: "*Perlsucht is the German name for the disease commonly termed tuberculosis, but it is doubtful if the name is applicable, etc.*" To which the editor of the Journal adds the following: "*In veterinary sanitary science and police, the question as to whether the tuberculosis or perlsucht of cattle is identical with tuberculosis of man has been fully discussed, and the views of Schuppel adduced in favor of this identity.*"

There exists at present among many veterinary writers, who are much better acquainted with literature than with questions belonging to pathology or ætiology, a most intense desire to discover identities between the diseases of the domestic animals and man; so far as the *desire* extends to a better knowledge of the cause of diseases, we also plead guilty, but our desire does not go beyond such cases as are capable of proof by direct experiment. Such *identity* is not to be established with a book of human pathology in one hand, a comfortable easy-chair and good cigar at command, with the waves of smoke circling round one's head, and dreamy reflections of possible identities occupying one's brain; the work by which identities are established is much more severe. In reference to *identity* in diseases, these gentlemen all have the wrong end of rope in hand. *They all seek the identity in the product and not in the ætiological moment.* Like causes do not invariably produce like effects in pathology, if they do in other things, not even by organisms belonging to the same species. Two persons are exposed to the same degree of cold. The one, on account of his intogenetic peculiarities, becomes a pneumonia and dies; the other, being of a tougher nature, becomes a catarrh of the naso-pharyngeal mucosæ and recovers. It always takes two causes to determine a pathological effect. If these two are exactly alike in different individuals, the result *may be* (?) more likely to be the same; *a causa externa equals causa sufficiens.* In the case in question, we find writers assuming that the tuberculosis of cattle and man must be identical, because the *tubercle* is the *result*, the product. We are perfectly aware that not only Schuppel but others pronounce the tubercles in both cases to be

histologically identical. We are also aware that equally competent authorities see sufficient histological variations in their structures to pronounce them different—Virchow, Schultz, and others. We are also aware that some authors have considered the so-called giant cells to be the diagnostic sign of tuberculosis, while at the present day very many trustworthy authorities decide the same not to be necessary. We can ourselves but express our surprise at the mistaken path men of such discernment as some of the authors upon this question, have taken in looking for the *identity in the product alone*. The *identity* must be sought in the cause, whether the product be tubercle, cheesy, metamorphosis, or what not; the individuality will frequently influence the product. In this very case, we find by cattle the product varying. At one time we have the tubercles in the lungs, at another the "perlucht," "grapes" on the serosæ.

Again we have "*tuberculosis pulmonum*" by the horse as an accompaniment of glanders, and again it fails; yet no one would think of assuming that a tuberculous cow had glanders, even if confined in the same stable for a long time with a glandered horse, yet *the identity in the product* is very evident; it may be said by some, "the nasal mucosæ are also affected by the horse," to which may be answered, innumerable—in fact the most dangerous cases of glanders for the community—are the pulmonary varieties where the nasal mucosæ are often entirely intact. Again the presence of tubercles in the lungs of the horse is not of itself in all cases pathognomonic of glanders, as was very clearly demonstrated lately by M. Trasbot, at Alfort, (see *Receuil de Med. Vet.*, vi. Series, Tome v., No. 9, p. 491, article entitled "Tuberculization miliaire non morveuse chez un cheval.") Notwithstanding the worthy editor of the *Veterinary Journal* considers the question as "fully discussed," we must ourselves most emphatically assert the contrary. Although we know that the elements of the lungs of cattle diseased with tuberculosis, and perhaps the milk, (?) are capable of producing tuberculosis in young animals per the digestive tract, *but in the face of this evidence we must most obstinately assert that the identity between tuberculosis of man and cattle is still a hypothesis, and*

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would still be one even though tuberculosis had been experimentally produced in children by feeding them with milk from tuberculous cattle, until the contrary had been proven by direct experiment upon cattle, for this would only prove that this was a cause, not the only cause capable of producing tuberculosis in children. The questions of ætiological identity are only to be settled in the experimental laboratory, and not over the "grüne tasch," as the Germans say. They are as yet among the things we most desire and need to know in reference to disease, and from which we can alone expect beneficial results of a high degree.

We do not wish to be understood as saying that tuberculosis is not the result of specific infection; we only mean to assert that the identity of the specifica is not yet proven, and also to incite all our colleagues by most careful attention to aid in confirming the identity, or in settling the ontogenesis of the specifica with reference to the hypothetic connection between human and bovine tuberculosis. As to children, we have no need to make experiments, the feeding experiments are plentiful enough; we have only to enter in connection with the medical profession, carefully gather statistics, and make careful observation, *for the vivisection will be attended to by fond parents, in spite of the society against cruelty to animals.*

Another much more unfounded assertion of identity has long enough existed in our literature, and still finds supporters. That is, that the equine family are the subjects of "typhoid fever," "typhus abdominalis." *The name "typhus abdominalis" has been given by mediciners to a peculiar infectious and contagious disease of man, owing its genesis to an unknown specific cause, and this disease does not and has not come to pass by horses, all authorities existing or having existed to the contrary.* That the fever accompanying many equine infectious diseases may produce typhoid, typhous phenomena, we should be the last to deny; but we do deny any identity between the diseases and the specific disease of man. Were this ætiological identity a fact, not only ourselves but hundreds of our colleagues would long since have been dead, for we know that this so-called typhoid fever, better "febris putrida," or still better, "septicæmia infectiosum," or "purpura

hæmorrhagica" of English writers, *is not contagious*, and that with attention to ventilation and cleanliness we have no need to isolate patients complicated in this manner. Even if this disease were characterized by similar path-anatomical phenomena to the typhus of man, still we dare not call it *identical*, although in such a case we might be justified in speaking of typhus of the horse, but not infer an identity thereby. But in reality, so long as diseases are not identical in the ætiological sense, it will be much better for comparative pathology for us to have ontogenetic names instead of longing for analogies.

A word as to the word "*fever*." It is time, and among intelligent mediciners it is the case, that "*termini technici*" indicative of *specific fevers* be dropped from pathic nomenclature—in reality there is no such things as *typhus fever* and *intermittent fever*. Although this last form which fever phenomena assume has more of the specific about it than any other, hence it is that we find intelligent and thinking mediciners speaking of "typhus," of "intermittent." Every educated person knows these diseases are bound with *fever*; the *fever* is a general condition varying in intensity accompanying various forms of disturbance. The ætiological momenta are specific, but not the fever. Other phenomena, as the "*ulcera typhosa*" of "*typhus abdominalis*" of man, the *variola*, may be said to specifically belong to certain diseases, but *fever* is common to them all. Generalization in pathology is something very few men dare indulge in, for the amount of knowledge necessary before one is prepared for such work is something only the Virchows of the world are capable of. The great men of the past, and present also, have all fallen into serious mistakes of generalization. Bichat generalized his "*serosæ*" to an undue extent, Andral his "*exudations*," and Rokitansky his "*croupose productions*"; and to-day the medical world is inclined to let all pus generate by the "*marching-out theory of Cohenheim*," not that these men and others have not seen what they report, but that the reported facts and theories drawn from them are too exclusively extended over the entire phenomena which are open to our study.

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EDITORIAL.

HOG CHOLERA, SO-CALLED.

What the disease, known to Americans by the above expressed title, may be, we do not at this time propose to enquire. It is sufficient for us to know that it is infectious and a scourge—two characteristics entitling it to a proper consideration at the hands of our Government.

Great Britain, by a dearly-bought experience, has learned, during the last few years, the bitter lesson that neglect of a danger-beset interest sooner or later ends in disaster. Buried in the graves of her pestilence-stricken cattle lie millions of dollars of her wealth, wrapped in the dead hopes of her once prosperous citizens.

The advice, the warnings, the pleadings of the only intelligence which could have given protection from the impending danger, were unheeded by the powers that govern, while they listened to the seductive reasoning advanced by the zealous spirits which ever find ready access to willing rulers' ears.

The veterinary profession, instead of being first, was last consulted in the matter, and the fatal negligence cost England alone more money than will be expended on the science of medicine during another century.

But has America profited by this experience, which our friends who suffered so kindly hold before us as danger signals? Have the United States acquired wisdom in observing the shoals that wrecked the cattle interest of our mother country? Do our office-holders look beyond the influences which surround the vantage-ground of a re-election, and through the mists of politics see the disasters which their dereliction of duty invite? Unhappily for our future, only negative answers can be vouchsafed to these queries.

The teachings of experience and the repeated warnings of those who would give protection in the hour of need, have fallen alike unnoticed on the perceptions of our representatives. Some-

thing other than immense yearly losses was needed to awaken in the public mind the necessity for measures being adopted that should relieve our animals from the scourges with which they are so seriously afflicted, and it was only after Great Britain refused longer to receive some of our exports, that a degree of attention was turned to this important subject. The results attending the short-lived interest in the matter are anything but flattering to our anticipations; for of the many diseases common to our country, only that of contagious pleuro-pneumonia was considered worthy of legislative interference, while the measures now being enforced in some of our States have not been adopted for the protection of our stock, nor with the expectation that they will prove effectual in eradicating this disease, but simply that a semblance of official protection may serve to allay the fears of other countries and re-open their gates, justly closed against our dangerous exports.

America, with her immense extent of territory and the extraordinary facilities which she offers for the propagation of diseases, promises soon to rival the Old World in the breeding of animal plagues, and our neighbors cannot know too soon for their own interests how extended and serious are the maladies which beset our domestic animals, and how negligent our Government has been in adopting measures for efficient protection.

Of these diseases, the one of hog cholera is undoubtedly the most productive of pecuniary loss. It flourishes to-day with unabated virulence throughout the principal swine breeding districts of the United States. The most fatal and wide-spread of all the scourges known to this animal, it continues to grow in spite of the millions yearly slaughtered for consumption, and yet no hand is raised to stay its progress and but an imperfect effort made to learn its history, its nature or its cause. Neither is there any attempt made by our Government to confine the disease to our own territory, for the exportation of these animals is unimpeded by official restraint, and other countries continue to receive without remonstrance cargoes of these disease-bearing exports.

If we are to judge from our past experience, there is but little prospect of any other state of affairs ensuing until embargoes like

those imposed by England are enforced by other countries against our trade: for it seems that only through the pockets of the exporter can the common-sense of our people be reached on this subject of animal diseases. There are no grounds as yet upon which to hope that the yearly loss of twenty million dollars' worth of hogs will gain for the producer that protection to which he is justly entitled. It is only the interference with free exportation that gains governmental attention, even though such interference amounts to but a tenth part of the loss sustained direct from the disease in question.

The fallacy of such tampering with this most important agricultural interest must sometime dawn upon the minds where now rests the responsibility, and let us hope it will come before we find ourselves the victims of preventible disasters greater even than those which now afflict us.

COMPARATIVE PATHOLOGY,

BY A. LIAUTARD, M.D., V.S.

PIOGENIC FEVER IN A MENAGERIE.

1. *Parotid abscess in a tapir—abscesses in the kidneys.*—In the month of January my attention was called to a tapir belonging to a menagerie in New York, which presented in the parotid region a large swelling extending under the jaw, preventing him from swallowing his food. This swelling was hard, very painful, and in fact presented all the characteristics of a large sub-parotid abscess. Warm fomentations and poultices were prescribed, and the animal's strength kept up with milk and whiskey. About forty-eight hours afterwards I detected, with difficulty, some deep fluctuations, and after exploration with the aspirator relieved him of a large collection of pus, which kept on discharging for some days and healed without further trouble to the animal, his liveliness and appetite having returned as soon as the abscess was

open. About a month after his appetite began to fail again. Sometimes he would stay several days without eating, and still no outside symptoms of sickness could be detected. After lingering some time until the end of March he was found dead in his stall.

At post mortem, the right kidney was the seat of a large abscess containing about fourteen ounces of very offensive pus; the walls of the abscess were adherent to the abdominal sides and to the right lobe of the liver. The left kidney was of normal size, congested, and offered in the cortical substance on its surface two abscesses of small size.

2. *Lingual abscess in a tapir*.—Some time later another tapir, placed in a stall alongside of this one, was suddenly taken with watering at the mouth and loss of appetite. The mucous membrane of the mouth being congested, the assistant swabbed it with a solution of chlorate of potass. Four days afterward he died, and a deep abscess was found in the substance of the tongue.

3. About the same time, in the same menagerie, a zebu had a large abscess under the parotid gland, and—

4. A female camel, nursing a young camel calf, had several lingual and molar abscesses. These last animals recovered without trouble.

5. *Constipation—urinary calculi in a male camel*.—On the 21st of January I was called to examine a male camel, aged, which had been ailing for the past few days. At my arrival I found that he had had no passage from the bowels for about a week, and that for forty-eight hours he had been making violent efforts to micturate, without success. A little drop of bloody urine was found at the end of the penis. The animal was quite uneasy, moving from side to side, from one leg to another, and making violent efforts to micturate, but still without result. On examining the rectum, I found the colon full of hard fecal matter, and the bladder enormously distended.

A diagnosis was made of constipation with retention of urine, probably from reflex action. Several attempts were made to introduce a catheter, which proved unsuccessful. Not knowing the

size of the urethra, I successively tried the smallest horse catheter I had, then the catheter of the human stomach pump, then the smallest bougie I could find, but I had to give up the attempt. The penis being drawn into the sheath, and being unable to bring it out, no idea of the size, or of the location of the opening of the urethra could be obtained. Failing in this attempt, I decided to open the bladder by rectum, which I did by aspiration, removing about seventy ounces of dark, bloody urine. This seemed to give him much relief, and after administering a strong cathartic of oil and sulphate of soda, with prescription of rectal injections, I left my patient.

On the following day he was in about the same condition, had passed no fœces, no urine, but seemed to strain less to micturate. The bladder was full again, and again relieved by aspiration of forty ounces of urine of better appearance; the cathartic is renewed.

On the 23d, in the morning, I found him laying down, and in dying condition.

The post mortem was made a few hours afterwards. The abdominal cavity contained a large quantity of fluid, and the colon was filled with hard fœcal matter. The principal lesions were found in the urinary apparatus. The pelvis of the right kidney, which was very large, contained a peculiarly shaped calculus, greatly resembling a navicular bone, with one face quite smooth and slightly convex, the other having in its centre a little projection extending in the ureter. It weighed six grammes. This kidney was much enlarged, congested and softened. The bladder had a small quantity of clear urine. The mucous membrane was healthy, and showed the two points of puncture made by the aspirator in the upper wall of that organ. The urethra was found to be, at the meatus, of the width of a knitting needle, and when a small probe was introduced through it, directly under the prostate, resistance was felt, and a little calculus of the size of the head of a pin was found imbedded in the canal, closing it up entirely. Going towards the free extremity of the urethra, this canal was noticed to become smaller, so that at its end it was the size of a pin, and at about two inches from the opening a fine

wire introduced came in contact with another resisting mass. This proved to be four little calculi imbedded together and closing also the urethra, which opened at the end of the penis under a little filiform prolongation about one inch in length.

6. *Fracture at the hock joint—urinary calculi in a female camel.*—On the — — — a female camel was brought to the American Veterinary College suffering with a comminutive fracture at the tarso-metatarsal joint. Being reported to be in calf, an unsuccessful attempt at treatment was carried on, but ultimately she was destroyed. Besides the lesion of the hock, which showed the crushing of the upper extremity of the metatarsus on its inner side, both kidneys were found to contain a calculus more developed on the right than on the left kidney. That of the right, as in the first case, assuming a shape analogous to and much resembling a navicular bone. That of the left kidney was much smaller.

PLEURO-PNEUMONIA.

REPORT OF THE CATTLE COMMISSIONERS OF MASSACHUSETTS RELATING TO PLEURO-PNEUMONIA IN 1863.

(Continued from page 124.)

COMMONWEALTH OF MASSACHUSETTS.

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts :

The Commissioners on Contagious Diseases among Cattle submit the following report :

Calls have been received to visit ten different towns during the last year, in three only of which has contagious pleuro-pneumonia been found, viz.: Chelmsford, Dedham and Nahant.

At the time of our first visit to Chelmsford, February 7th, one of a herd belonging to Charles Adams had died about two weeks previous, and two others were slightly ill.

The carcass of the dead animal had been carried to the woods, about a mile distant, and left above ground, and had become frozen. On examination, there

was sufficient evidence that pleurisy had existed, but no evidence of diseased lungs, one of which had been carried away. As the symptoms of the two that were ill were not sufficiently positive, it was decided to isolate the herd, and await further developments.

On the 8th of March another visit was made, (a request having been received) when two more of the herd were found sick, one of which had the night previous aborted a calf.

One of the first alluded to was selected, (percussion giving a flat sound over the whole thoracic region of the right side) and slaughtered.

The autopsy showed adhesion of the whole of the large lobe to the ribs, which was evidently of long standing, probably a year or more; several physicians being present, all were of this opinion.

On cutting through the lung, unmistakable evidence of contagious pleuro-pneumonia was present.

The isolation of the remainder of the herd was continued, during which Mr. Adams fed, with grain, one of the cows which showed but slight symptoms of illness, when we were present.

On the 8th of June she was slaughtered, and the examination disclosed adhesion to exist to the sixth and seventh ribs, and to the vertebrae. A cyst, containing a mass weighing, by estimate, two pounds, was found in the lung. As no other cases had occurred from the 8th of March to the 8th of June, the herd was released.

It should be noted that Mr. Adams' herd consisted of five cows, which had been kept on his own farm during the season, a yoke of oxen, four two-year-old heifers, and three cows which he had kept in at pasture in Ashburnham. The first animal taken sick was one of the heifers he brought from Ashburnham about the middle of August, and was taken sick about the 20th of December.

The Commissioners were unable to find that pleuro-pneumonia had ever existed in any herd within six miles of Mr. Adams' farm.

Our attention was next called to the herd of Avery Whiting, of West Dedham, consisting of three cows only. The history of this herd is as follows:

In March, Mr. Whiting purchased the three cows of a dealer; the one first sick came from the north part of Waltham the market day previous to his purchasing them. By the statement of Mr. Whiting she was taken sick about April 1st, but according to that of his hired man, after the 21st, and was very sick for some time, but gradually recovered her appetite, and on our first visit gave seven quarts of milk per day. She was thin of flesh, and gave evidence of having suffered severely.

On the 13th of June another was taken sick, which died the 3d of July. On the 4th an examination was made, which disclosed the right lung wholly consolidated, and weighed twenty-six pounds. The thorax contained at least three gallons of serum; a thick coat of lymph intervened between the pulmonary and costal pleura.

On the 22d of the same month the third cow was taken sick, and on the 24th she presented the usual symptoms of pleuro-pneumonia. Both of those that survived were kept until the 22d of November, when they were slaughtered; a description of them is given in the report relating to experiments which have been conducted during the past year.

As the pastures of Mr. Whiting are adjoining those on which a large number of cattle are kept, and his cattle remained there until one or more of them became sick, when they were secured in the barn, considerable apprehension existed that the disease would spread; consequently, directions were given that the cattle in the immediate vicinity should be isolated, which was done in a suitable length of time, when no further sickness appearing, they were released.

The next case to which our attention was called was a cow belonging to Mrs. Cary, of Nahant. She was purchased of a dealer in Lexington, in June, and had been kept at Nahant until the time she died, October 5th. The lungs were sent for examination, and it was estimated that the diseased one would weigh more than forty pounds. It presented the usual characteristics of the disease in question.

It is proper to state that this animal was kept in the same enclosure with another until she became sick, when she was shut up by herself in a stable, and as it was impossible to ascertain with certainty whether the other cattle in town had been exposed, or, if any, how many, therefore they were all prohibited from being sent away till the Commissioners were satisfied that the disease had not been communicated, when they were released.

Since the appropriation by the Legislature of \$20,000, in 1864, the Commissioners have expended the sum of \$7,943.78, a considerable part of which has been for the experiments ordered by the executive department.

Several towns have drawn sums for claims made previous to the appointment of the Commission, amounting to \$1,906.36, leaving a balance of \$10,149.36, which reverts to the treasury.

The conclusion of the report of the experiments made by order of the executive department to determine the question of the "contagiousness and curability of the disease among cattle (pleuro-pneumonia); also whether for the purpose of working, milking or breeding they have been injured by exposure to disease, or by having had the disease; and also to ascertain by slaughtering them, at a sufficiently remote period, whether, and to what extent, their fattening qualities have been injured," is hereby respectfully submitted.

A report relating to the contagiousness of the disease, as shown by this experiment, was in May last sent to the Legislature and printed, (House Document No. 292).

The cows were kept at Newtonville until May 18th, when a bull was purchased, and with the cows was sent to pasture at Lovell's Island, Boston Harbor.

June 9th.—Visited the island and found them all in thriving condition, excepting the roan cow, which calved March 18th; she looked baggard and dull, had staring coat, and was poor in flesh compared with the others, and in consideration of the large amount of food on the island.

The calf sucked the cow during the summer.

July 11th.—Again visited the island and found all, with the above exception, had accumulated flesh rapidly. In July, the officers in charge of Lovell's Island directed that all the animals be removed, as some improvements were to be made; therefore, Hog Island, situated in Hull, was selected, and the cattle removed there.

A visit was occasionally made, and the animals examined. No material

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change occurred in their condition until the excessive drought dried up the grass, when all of them lost flesh.

September 19th.—The four cows, bull and calf, were slaughtered in Brighton.

AUTOPSIES.—The roan cow (No. 1, Maine) was first killed. On removing the right lung it was found adherent to the ribs at its lower border, about five inches in length and four in width; that portion of the lung appeared wasted, and on the inner surface was a cicatrix, as if suppuration had taken place, and ulceration sufficient to open the cyst, causing a discharge of the contents of the cyst into the thorax. A small cyst was found in the immediate vicinity. There was also adhesion of the left lung. All the other organs appeared healthy; the uterus was empty.

The next killed was No. 3, Maine cow. All the viscera, both thoracic and abdominal, were healthy; the uterus contained a well developed fetus.

The No. 4 Maine cow had a small portion of the pulmonary adherent to the costal pleura; the lungs were healthy, as were all the other organs; the uterus contained a fetus not more than four weeks old.

No. 1, Weston cow.—The superior part of the large lobe of the left lung was adherent to the ribs and to the vertebrae, and in the lung was a cyst containing a mass about three inches in length, and two in breadth. Otherwise, the organs were perfectly healthy. The uterus contained a fetus about two months old.

All the organs of the bull and calf were healthy.

Two or three cows owned by Avery Whiting, one of which was attacked by the disease in the latter part of April, the other the 22d of June, were sent to my place in West Newton on the 31st of July. The first mentioned calved a few days previous to the attack, and on the 24th of June, when I first saw her, had a good appetite, and gave about seven quarts of milk per day, was thin of flesh, and coughed frequently.

The other showed the first symptoms of illness on the 22d of June, previous to which she gave three gallons of milk per day, and was in good flesh. On the 24th of June she presented the following symptoms:

The pulse was eighty per minute, small and wiry; respiration thirty, short and apparently painful; the coat stared; the eyes were dull; and considerable saliva flowed from the mouth. By percussion, a dull, flat sound was emitted on both sides of the thorax. The appetite was entirely lost. Occasional visits were made. No material change in the symptoms appeared until the 13th of July, when the appetite began to improve.

Her condition, August 1st, was little better than a living skeleton; the hair stood out and had an unhealthy appearance; she coughed almost incessantly both night and day; the secretion of milk was lost, and with the best of food for producing milk,—green grass and sweet corn fodder,—not over half a pint a day could be drawn.

The appetite was voracious, yet but little improvement was manifest in her condition for two months, when the cough partly subsided and she began to gain in flesh, and continued to do so until she was slaughtered, yet no milk was secreted. No one would suspect she was diseased unless she was compelled to move a few steps quickly, when a fit of coughing would invariably follow.

With the first mentioned cow, but little improvement was produced in her condition.

AUTOPSY, Nov. 22d, seven months after being attacked with the disease.

The superior middle portion of the right lung adhered to the ribs and diaphragm, eight inches in length and six in width; the lung contained a solidified mass. The left lung and heart were healthy, as were all of the abdominal viscera; no fœtus in uterus, although she received the bull in June. The autopsy of the second cow, five months after the attack, showed extensive adhesion of both lungs to the ribs and diaphragm, and nearly in the same locality, with an incysted mass in both. The other viscera were healthy.

The results from the foregoing experiments are as follows:

1st. That two of the four cows brought from Maine had the disease from an exposure of twenty-four hours, to two animals from the herd of Levi Smith of Ashby.

One of the four cows had the disease from a subsequent exposure. The other cow escaped the disease.

The two Weston cows were exposed for one week to two of the Maine cows, fourteen days after they had been attacked with the disease.

There is no evidence that either of the Weston cows took the disease from this exposure.

They were afterwards exposed to a calf which had been sick but four days, for the space of fifteen days, and fifty-seven days after the first day of exposure one of them was sick. Seventy-one days after the exposure the second cow became sick and died.

The autopsies disclosed the fact that both of these animals had pleuro-pneumonia.

2d. No working animals being in our hands for experiment, we give no conclusions in relation to the effect of the disease on such animals.

3d. It is evident that if a cow is attacked with the disease when having a large flow of milk, the secretion will be partially or wholly suspended, depending on the violence of the attack and the duration of the acute disease.

4th. Three of the five cows became impregnated, the one which escaped the disease having the oldest fœtus.

5th. From the foregoing, (and previous observation confirms the opinion,) it is evident that animals which have had an attack of pleuro-pneumonia will fatten readily, although considerable lung tissue has been lost.

Respectfully submitted.

E. F. THAYER,

For the Commissioners.

DECEMBER 27, 1865.

COMMONWEALTH OF MASSACHUSETTS.

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts.

The Commissioners on Contagious Diseases among Cattle, in submitting their Report, congratulate the people of the Commonwealth upon the *probable* extinction of the disease, (no case having come to their knowledge since October, 1865,) which but a few years since threatened to be of so serious a character, viz., *pleuro-pneumonia*.

The Commissioners have been called to several towns during the past year to examine diseased animals, yet not a case of contagious pleuro-pneumonia has been found.

A concise history of the disease since its first appearance in Mr. Chenery's herd in Belmont to the present time, is deemed of sufficient importance to warrant its insertion in this Report.

In the latter part of May, 1859, four cattle arrived from Holland and were taken to the farm of Mr. Chenery. Two of them were sick, and in a few days died. Another soon after sickened and died. At the time of the death of the third, three calves were sold to go to North Brookfield, one of which was taken to the herd of a dealer for treatment, being sick. The dealer, trading in cattle, as usual, soon disseminated the disease far and wide.

In the following April an Act was passed "to provide for the extirpation of the disease called pleuro-pneumonia among cattle," which gave the Commissioners power to cause to be killed all cattle in herds where the disease was known or suspected to exist. The disease had, at the time of the passage of the Act, been extensively scattered, and in a short time the appropriation (\$10,000,) was absorbed. A larger number of cattle having been exposed than was first estimated, an extra session of the Legislature was called to revise the law, and to provide the means of executing it. A new law was enacted, and received the sanction of the executive on the 12th of June.

No new outbreak of the disease occurred during that year, nor in that locality, as far as is known, to the present time. The number of cattle killed was nine hundred and thirty-two.

For more than a year nothing was heard of pleuro-pneumonia. In fact, those most directly interested were confident that the disease was extirpated. Early in the following winter, however, it was reported that it existed in the towns of Milton, Dorchester and Quincy.

A Board of Commissioners was appointed, who, upon investigation, found it to be too true. A pair of cattle was purchased at Brighton, which were taken to Quincy, and both died. No further history of them could be learned, as it was impossible to identify them; but the spread of the disease could in every instance be traced to contact with the animals in the herd in which they were at the time of their death, as shown in report of that year. The number killed during the year was one hundred and fifty-four.

For several months the Commissioners felt confident that the disease was eradicated. In February, 1863, the Commissioners were called to examine sick cattle in the north part of Waltham—also in Lexington. It proved to be pleuro-pneumonia, and its origin was directly traced to a dealer, and from the sale of cattle by him to eight different herds. The appropriation (\$1,000) was soon exhausted, consequently the Commissioners resigned.

The selectmen of several towns were called upon to execute the law, which, (some of them at least,) reluctantly did, yet the disease still prevailed. Accordingly the present Board of Commissioners was appointed in April, 1846.

It was found that several herds were affected, and that the origin of the disease was in Lexington or that immediate vicinity. Seventy-four cattle were killed during that year.

In 1865 but three herds were found affected with the disease, from which four animals were killed.

The Legislature at its last session, in a proviso to the Resolve allowing the sum of twenty thousand dollars to the use of the Commissioners, required them to make investigation and report upon the curability of the disease.

No cases of the disease having come before the board the past year, they were of course unable to comply with the request, and can only refer, for information on this subject, to the report of last year, on the experiment made by the Commissioners during the years of 1864 and 1865.

The uniform course of the present board has been to isolate all herds they have found affected with the disease, and such other cattle as had in any way been exposed to diseased herds, to kill such as they were satisfied had the disease to that extent as to make them useless to the owner, and, in but few instances, only such. The result of our action contrasts favorably with that of Great Britain in the management heretofore of contagious diseases among cattle.

In Great Britain, during the past two years, public attention has been diverted from *pleuro-pneumonia* to the more terrible disease, *rinderpest*.

We here quote from Prof. McCall's introductory lecture before the class of veterinary students, November 6th of the present year, at Glasgow, Scotland, to show that *pleuro-pneumonia* is still making its ravages among the cattle of that country:—

"For upwards of twenty years this country has annually lost thousands of cattle from one contagious disease alone, viz., *pleuro-pneumonia*, and at the present moment it is busy among our herds. One gentleman present has lost twenty-two out of a herd of thirty-five; and a few weeks ago I was consulted by a farmer who had lost twelve out of twenty, and now the disease has appeared among his young stock. The number of deaths in these instances is appalling, and the loss, directly and indirectly, cannot be estimated at less than £900 or £1,000.

"The *plague* has drained the pockets of farmers and dairymen of thousands sterling; but thank Providence we are now free of the disease in this country. *Pleuro-pneumonia* has drained our pockets of millions of pounds, and she is still in our midst, the great enemy of our stock. * * * * * Use the means I have indicated, and the means which the *plague* has taught us to be of benefit in controlling contagious diseases, and if the contagious *pleuro-pneumonia* of cattle now decimating our stock is not thereby extinguished—'stamped out'—its operations will be so curtailed, that the losses resulting to stockholders from the presence of the disease will sit lightly upon their shoulders.

"Prof. Simonds, in his introductory address, delivered at the Veterinary College in London, in October, says: 'From this time the disease called *rinderpest* spread in all directions, the attacks gradually rising until they reached, in the week ending February 17th, 1866, the alarming number of 15,706. The first order in council was dated July 14th, 1865, and from that period until now, order has succeeded order, with more or less influence in checking the progress of the malady, and providing for the altered state of things arising out of its existence.

"The passage of the Cattle Plague Act was, however, the real cause of the diminution of the cases which has since taken place, and which emboldens us to hope that ere long the disease will be entirely exterminated. For the first time in the history of the visitation the attacks were returned as under 100 for the week ending September 1st, 99 being the exact number reported by the inspectors.' * * * * * He quotes 'from the official returns the amount of loss which England herself, apart from other parts of Great Britain, has sustained. The total attacks are returned as 198,406. The animals killed, (diseased,) amount to 77,508; those which died to 90,415; the recovered to 21,589; and the unaccounted for to 8,894. Besides which, no less than 38,356 have been slaughtered healthy, to prevent the spread of the malady. These figures are truly formidable; but they fail to show a tithe part of the distress and ruin which

has been brought on hundreds of thriving and industrious farmers and cattle-owners by this dreadful visitation.'

"In speaking of Scotland, he says: 'It appears from the official returns that the attacks in Scotland amount to 46,861, being 4.841 per cent. of the entire stock of the country.'

"In Ireland but fifty cattle were exposed to the disease; twenty-nine were attacked and either died or were killed, and twenty-one were slaughtered healthy.

"Nothing can show more clearly the propriety of the 'stamping-out process' than this result. In it we have a parallel with what took place in France, where only forty-three animals, healthy and diseased, were sacrificed to the pole-axe, the country being thereby freed from the plague."

The Cattle Plague Act alluded to above, resembles the law passed by the Legislature of Massachusetts at the extra session, in its general features; and the course adopted by the authorities of Great Britain, in relation to rinderpest, is similar to that taken by the present Board of Commissioners in Massachusetts in relation to pleuro-pneumonia.

Prof. Simonds further says that a focus of the disease still exists; consequently the law passed by Congress, preventing the landing of any cattle from foreign seaports, should be continued in force.

We append to this Report a statement of the entire expenditure by the State of Massachusetts for the extirpation of the disease since its commencement in 1860, obtained from the treasurer's books, which is \$67,511.08. In addition to this amount, the several towns where the disease has been found have paid one-fifth of the cost of isolation, and of the appraised value of all the cattle killed, amounting to a sum which we estimate at \$10,000. (There is no printed report of the number of cattle killed by order of the selectmen of towns in 1863.)

The amount paid from the treasury on account of pleuro-pneumonia is as follows:—

In 1860,	\$28,733.21
1861,	14,118.43
1862,	4,525.86
1863,	6,657.32
1864,	7,487.07
1865,	5,622.84
1866,	386.35
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	\$67,511.08

E. F. THAYER,
CHAS. P. PRESTON,
F. D. LINCOLN,

Commissioners.

DECEMBER 28th, 1866.

COMMONWEALTH OF MASSACHUSETTS.

To the Senate and House of Representatives of the Commonwealth of Massachusetts :

The Board of Commissioners on Contagious Diseases among Cattle, which has been continued in accordance with the wishes of His Excellency the Governor during the past year, the object being to guard against the introduction of the cattle plague (rinderpest) which has caused so much loss in Great Britain during the past three years ; or the possible breaking out and spread of the disease called "pleuro-pneumonia," which has heretofore prevailed to an alarming extent in this Commonwealth, congratulate the people upon the exemption from the former, and the probable extinction of the latter from our herds.

From the latest reports it appears, through the energetic action of the English government, the rinderpest is nearly "stamped out," consequently the fear that it would be brought to this country is lessened. Should, however, the calamity occur, it is hoped that the same vigorous measures adopted by Massachusetts to extirpate pleuro-pneumonia, and Great Britain the rinderpest, would be executed without delay.

These measures, together with the restriction placed upon the importation of cattle by our government, have so far protected us against the rinderpest. The active and timely exertions made in our Commonwealth have saved our herds from the devastation which was so seriously threatened by the pleuro-pneumonia, so that by the expenditure of a very small proportion of the appropriations made in 1864 and 1866, we have now entire confidence that it is eradicated ; and from what we know of the nature of the disease, we feel certain that it will not again appear among our herds unless, as in 1856, imported from beyond our limits.

As the Commission has accomplished the work for which it was appointed, in tendering to His Excellency our resignation we congratulate the people on the success which has been insured by the prompt action of the State Board of Agriculture, and especially its Secretary, in connection with the Legislature, and with the co-operation of many of the leading agriculturists and breeders of stock among our citizens, in eradicating one of the worst forms of contagious disease which has been found among the cattle ; and we would at the same time congratulate the breeders of stock that the investigations of scientific men in relation to this, as well as other forms of disease peculiar to animals, is tending in so large a degree to save them and the country from such great losses as they would otherwise inevitably incur.

The Commissioners have been called in several instances during the past year to examine diseased cattle.

In one herd only, and but for a few days, during which three cows died, was there any evidence of a contagious disease found. The character of the disease is unknown, as the animals had been buried before our arrival at the farm.

E. F. THAYER,
CHAS. P. PRESTON,
Commissioners.

DECEMBER 30, 1867.

PLEURO-PNEUMONIA IN CONNECTICUT.

From the report made by Prof. Cressy, of the Amherst, Mass., Agricultural College, E. H. Hyde, chairman of the Connecticut Cattle Commission, and secretary of the Connecticut Board of Agriculture, it appears that pleuro-pneumonia prevails to an alarming extent in portions of Fairfield Co., Conn., and Westchester Co., N. Y. These gentlemen made a thorough examination of the infected herds, and this report can be relied on. One farmer, S. S. Mead, of Greenwich, Conn., bought a calf in New York city last September, which died of pleuro-pneumonia within a month after its purchase. Since then Mr. Mead has lost five cows and another calf from the dreaded disease, while several others in his herd have been more or less affected. On an adjoining farm two cattle have died, another reported dying, and nineteen cows and a yoke of oxen sick. Another farmer has his herd exposed, and has already lost several cows. It seems that this disease is liable to break out again, in a herd that has once been infected, even though several months have passed without any appearance of sickness. A farmer in Fairfield Co., Conn., bought some cows from Westchester Co., N. Y., some five years ago, and lost several from pleuro-pneumonia, but the herd has been apparently free from the disease for three years, until quite recently, when it broke out again.

In Connecticut the authorities have no power to kill diseased animals; the infected herds are placed in quarantine. We would caution western farmers against buying breeding stock from the east unless they can receive undoubted assurance that the animals have never been in an infected herd, or in any way exposed to the disease.—*Prairie Farmer*.

CONTAGIOUS PLEURO-PNEUMONIA IN NEW JERSEY.

Editor Review:

On the 24th of March, 1879, I had the honor to receive, from the authorities of the State of New Jersey, an appointment as Veterinary Surgeon-in-Chief to the State, with the ostensible

duties of advising what measures it were necessary to adopt, in that contagious pleuro-pneumonia might be suppressed and finally eradicated ; to determine whether suspected cases were genuine, and to supervise and instruct the staff of Veterinary Inspectors appointed by the State.

On the 25th of April following, I found it necessary to withdraw from the service of the State, and so tendered my resignation. What the causes were which impelled so unpleasant a termination of my work, may be seen from the facts set forth below.

I shall not attempt the presentation of any arguments upon the question, Does pleuro-pneumonia contagiosa exist in New Jersey ? for those would-be veterinary surgeons who deny its presence there, are devoid of that degree of intelligence necessary for a just comprehension of the nature and importance of pathological lesions when seen, or else they are actuated to such expressions of opinion by motives which all honest men ignore.

Professional mistakes on questions of such vital importance as are involved in the treatment of so serious a scourge as this disease has ever proved itself, even when made in good faith, will prove disastrous to the growth and best interests of veterinary surgery for a long time to come, and seriously impair the future success of all our live stock interests. But when these mistakes are intentionally made for the purpose of personal gain, or that they may serve for the moment to satiate the cravings after notoriety of a misconceived and perverted ambition, the author, to all intents and purposes, steps beyond the dividing line and makes himself a criminal.

Contagious pleuro-pneumonia *does* prevail in New Jersey, and the questions which interest us all are :

How extensive is it ?

Is it spreading and increasing ?

Are the western States endangered ?

Does it endanger our live stock export trade ?

Are proper steps being taken to eradicate it ?

There can be no question that at least eleven, and, possibly, thirteen counties within the State are more or less infected. Of these eleven counties two were under strict quarantine, Bergen

and Hdson. Four hundred and sixty-four herds of cattle were inspected* in Bergen County, nine of which were infected with pleuro-pneumonia. These nine herds contained one hundred and twelve animals, thirty-eight of which had the disease. On the 23d of April but a small portion of Hudson County had been inspected, yet forty-nine stables were found infected, with nearly one hundred cases of the disease. This county contains Jersey City, and owing to the general traffic in cows, and the close proximity to the centre of infection of New York State, is probably to be ascribed the fact of its extensive infection. That any other county contains so large a percentage of diseased cattle is extremely doubtful; yet a short experience with the disease teaches that not even an approximate estimate can be made in any district until a thorough inspection has been instituted.

The question—Is the disease spreading and increasing?—can be answered only in the affirmative. The practice of most cattle owners of selling to dealers those animals which become infected, has been the means of rapidly spreading the disease from herd to herd; for these diseased ones were, as a rule, immediately replaced by healthy ones, which in time became affected, and in their turn were sent forth upon their mission of contamination. This reprehensible practice served both to maintain the primary centres of infection and to create numerous new ones. Another source of general contamination was the practice of indiscriminate pasturing upon the commons, where the diseased and healthy constantly intermingled. Lastly, wherever the quarantine of an infected herd could be made effectual, the disease rapidly spread unless all the animals were infected when first seen, so that cases rapidly multiplied upon our hands.

The third question permits of but one answer, and that also is affirmative. The cattle of our western States are in imminent danger of becoming infected for the simple reason that no precautions are being taken to prevent it in some of our infected States, and especially is this true of New Jersey, Pennsylvania, Maryland and Virginia. True, the traffic in cattle is principally from the west to the east, but there is not a single obstacle interposed which would prevent diseased animals being carried to

the west ; and unless measures more efficient than any heretofore adopted are soon made operative, it is but a question of time when the whole country will be in New Jersey's most unfortunate position.

It is hardly necessary to tell the members of the profession in America, who know so well the ability of foreign veterinarians, and their determination to prevent the importation of infectious diseases, that anything which endangers the health of our live stock promises to be disastrous to our export trade in cattle. Even granting that pleuro-pneumonia does not spread to the west, cattle shipped to New York, Philadelphia or Baltimore are in danger of becoming infected while *en passage* to the points of debarkation, and the veterinary surgeon who represents otherwise is willing to sacrifice an honest expression of opinion to the public demand for an unimpeded traffic in live stock.

That proper steps have been taken to eradicate contagious pleuro-pneumonia from New Jersey cannot be claimed by any one who knows the nature of the disease and the methods attempted to be enforced. Prior to the commencement of my labors in that State, the authorities consented to the proposition that *all* cases of the disease should either be killed and buried, or in case they were fat, slaughtered for food ; and that those cattle belonging to the herds infected, but not yet diseased, be kept under strict quarantine until such time as all danger had passed away. Even the propriety of killing *all* the animals in an infected herd was favorably discussed in conjunction with the question as to whether the law could be so construed as to permit its being done. Inoculation was conceded to be an unwarranted practice under the circumstances and was at once prohibited. No one can deny that the outlook was most favorable as presented at this stage of affairs ; but subsequent events determined that vaccination, not steadfastness of purpose, was the principal characteristic of the power which attempted to accomplish an end without any knowledge of the controlling laws of cause and effect.

On or about the 9th of April a herd of fourteen cattle in Morris County were visited for the express purpose of disposing

of them, since nearly all had the disease, and when it was recommended that they be killed at once, the owner consenting and being anxious to protect himself and neighbors, the courage of the Executive's representative gently oozed away, while his intelligence evolved the remarkable statement, "I cannot establish such a precedent."

A herd of imported Jerseys in Middlesex County were quarantined and the infected ones left to die and spread the disease, the owner's and my own protestations against the danger and injustice of such measures being met with the practical (?) observation "He introduced the disease himself, and if he wants to get rid of it, let him kill them."

On the 16th of April I received the following telegram in response to one of my own, asking for instructions: "No animal should be destroyed without, in the judgment of two veterinary surgeons, it is the last resort to prevent the spreading of the disease." With a hundred cases of the disease on hand and rapidly spreading in many of the herds quarantined, and new herds being daily discovered that were infected, I asked that I be instructed to destroy *all* animals with contagious pleuro-pneumonia. This was most emphatically denied me on the ground "We don't know where it will lead us."

On April 23d, I was orally instructed to destroy *all* cases of the disease in Bergen County. On the 24th, two were killed and buried, and on the 25th four more were to have been destroyed in that County. The owner of three of the condemned cows refused to have them destroyed without seeing my authority for so doing, and, since I had no such authority to show, the sheriff who was present to enforce the law, refused to act in the matter, and so I was left powerless to proceed. Telegraphing for instructions, I received the following: "You had better return." Thus ended the mission upon which I was sent by the people's representatives, who would not be present to enforce the law entrusted to their hands, nor give me the authority to accomplish that for which I had been sent. My resignation was at once tendered and accepted in due time. The Executive's representative, after sacrificing me for the purpose of testing public opin-

ion in the matter, kindly told a protesting cattle owner, for whom I had destroyed three cows, that the veterinary surgeon-in-chief had killed his cows without any authority whatever and without any instructions from him. It is to be presumed that the Executive received similar information, for a telegram to his representative, of the same date, reads: "I knew *you* were right and that *he* was wrong."

During the thirty-three days which elapsed from the time of my appointment until I resigned, fourteen cases of contagious pleuro-pneumonia were killed and buried or delivered to the offal contractor, and I leave it to the profession to imagine, if they can, and the authorities to prove by their labors, at what time in the future New Jersey will be freed from this disease.

Respectfully,

NEW YORK, April 30TH, 1879.

A. A. HOLCOMBE.

PLEURO-PNEUMONIA IN PENNSYLVANIA.

COMMONWEALTH OF PENNSYLVANIA.
VETERINARY DEPARTMENT, BOARD OF AGRICULTURE. }
Carversville, Pa., May 19, 1879.

EDITOR AMERICAN VETERINARY REVIEW:

It may not prove uninteresting to your readers to have a very brief sketch of the action which the great State of Pennsylvania is taking in regard to that most insidious of all contagious bovine maladies, namely, *Pleuro-Pneumonia Contagiosa*.

Official reports from New York and New Jersey, declaring the prevalence of this disease in those States, led to an investigation in this, which was instituted under the orders of the Secretary of the State Board of Agriculture. On March 15th, in company with two gentlemen from the Market Farmers' Club of Philadelphia, I visited farms in Delaware County, near Upper Darby, and found some well marked and clearly defined cases of contagious pleuro-pneumonia. I at once wrote the particulars of this visit to Thomas J. Edge, Secretary of the State Board of Agriculture; and through this gentleman's efforts a joint resolution passed the House and Senate authorizing the Governor to investigate the cause, nature and extent of this mal-

ady, and report the same without unnecessary delay. Meanwhile this State has passed a law similar to that of New York and New Jersey.

On March 27th, in company with Secretary Edge and members of the House, I visited a herd in York County, and after declaring the disease to be contagious pleuro-pneumonia, the owner kindly allowed us to kill an infected calf for post-mortem purposes. The characteristic lesions were most beautifully developed, and the history of the cases proved that the infection was introduced by some steers which the gentleman had bought from *Baltimore, Md.* The investigation has been carried on up to the present time, and the counties of Philadelphia, Delaware, Montgomery, Bucks, Chester and York are found infected. What *others* there may be, we have not yet ascertained, deeming it unnecessary to carry on the work any farther until the Governor had a report in full and had acted thereon.

In all this work, I desire to express my kind appreciation of the very valuable assistance rendered by J. Westley Gadsden, M.R.-C.V.S., of Philadelphia, as well also as to exonerate him of those malicious charges which certain parties have intimated against him. His work in this matter has been purely *unselfish*, and was prompted only by those motives which look toward the *actual good of the Commonwealth*. From the fact that a body of men, styling themselves the "Penna. College of Veterinary Surgeons," had visited some of the *same* herds which I had pronounced to be infected with contagious pleuro-pneumonia, and *denied* the existence of this disease in a *contagious* form, it was decided to hold a meeting of the Commissioners in Philadelphia, where these conflicting opinions might be heard and weighed. The 16th and 17th of May were designated as the time for this meeting, and it has resulted in proving quite clearly that the position taken by Dr. Gadsden, myself and a few others was correct, and that we *have* contagious pleuro-pneumonia in our midst. I cannot refrain from giving a sample of the intelligence (?) which the "Penna. College of Veterinary Surgeons" displayed at this meeting on Saturday, 17th inst. They *denied* the existence of *contagious* pleuro-pneumonia in this State, and *implied* a very strong doubt

of its ever having been *contagious* in *any* country. In the face of this however, and with but one or two exceptions, when asked the question: "If a cow having pleuro-pneumonia was taken into a healthy herd might she not *so vitiate the air* as to cause other cattle coming in contact with her to take this same disease?" they answered, "YES." *Such inconsistency explains itself.* The long delay in getting to work in this State has been occasioned by the unstable confidence which the Commonwealth reposes in her veterinarians. This is a lamentable fact; yet it remains such, and *will* until our ranks are expunged of those *many forms of quackery* which at present serve only to keep the profession at an ebb which obtains the *contempt* of an intelligent public.

CHAS. B. MICHENER, D.V.S.

CORRESPONDENCE.

EXPLANATION.

Dear Mr. Editor:

The remarks of the editor of the *Veterinary Journal*, England, in your issue of June, 1879, are before me, and require, I suppose, some notice from me. The passage in your REVIEW of April reads in full, "We long to see the day when 'our REVIEW' shall contain contributions worthy of translation and recognition in other countries and among mediciners. Alas! when will the day come. Yet we have no reason to complain, *for about all the matter of any scientific value in the Veterinary Journal, Britain's leading review, is LIKE OUR OWN, 'purloined' from continental writers.*" We are sorry our friend should have taken the word "purloined" in the severe sense which he has. We are fully aware the translations appearing in his journal have been credited to the original writers; but what we do say, and will adhere to is, "taken or borrowed from continental writers"—further change of words or retraction is not my intention to make. As to the strictures of my "borrowed German notions," I never went to Germany to borrow "originality," either in ideas or character—a fact we will leave time to prove—thankful

as I am for the benefits and knowledge derived in that country, neither of which are possible to be obtained in any veterinary school where the English language is spoken. We will not discuss this question further, but wishing all success to those who desire the elevation of veterinary education in this country, I am

Yours, fraternally,

BILLINGS.

Boston, June 12, 1879.

DON'T LIKE THE COMPANY.

SPRINGFIELD, June 17th, 1879.

My Dear Doctor :

I received, this morning, the "Annual Catalogue and Announcement of the Columbia Veterinary College," and I can truly say to you that the appearance of my name as one of the "Councillors" of the above named institution was to me a *first announcement* that anything of the kind was contemplated or had taken place; and I will add that had the *gentlemen* in authority done me the *honor* of asking the use of my name, before using it, I should most certainly have declined to give it them. As the matter now stands, you may be sure that I shall do all within my power to extricate my name from amongst the, to me, very unpalatable surroundings in which I have to-day for the first time seen it, or thought of its being placed.

Yours, very truly,

CHARLES P. LYMAN.

OFFICE FOR THE PREVENTION OF THE SPREAD OF
PLEURO-PNEUMONIA AMONG CATTLE.
249 Washington St., Jersey City, June 23, 1879. }

Mr. Editor :

In the *Turf, Field and Farm* of June 20th, is an open letter from F. S. Billings, M.V., containing strictures on the profession in the United States unwarranted by the real condition of affairs. Will you allow me the use of your columns to bring a few facts to his notice? Let me tell him that the great need at present in this country is a supply of good practitioners, men with practical knowledge built upon a scientific basis, a need the American

Veterinary College is supplying by turning out from year to year men well qualified to practice their profession with credit to themselves and satisfaction to their clients.

Mr. B. sneers at the mere curers. Is not the first duty of the physician to heal the sick? He speaks of them being able to take no part in sanitary medicine. There are to-day graduates of the A. V. C. giving valuable aid in the suppression of contagious pleuro-pneumonia in this and in New York State. When the Chateau d'Espagne of our friend from Berlin is completed, the private schools are to be wiped out; he will find that the American Veterinary College will never be wiped out or even injured by such an institution as he proposes to found. Our little college is the fruition of patient, hopeful work, of self-denial, of love for the profession. The years of gratuitous service rendered by the professors of our institution, the time given that could have been appropriated to the pecuniary benefit of the giver, the money given as the need arose, the steadfast march on toward the right, all this done without fuss or flourish of trumpets, has had for effect to build the foundation of our alma mater on a rock.

Mr. Billings will never gain a similar stability by trying to lift himself into notoriety by the waist-band of his breeches. He will never elevate himself or his chimerical institution by trying to pull other worthy people down. Let this young man, before he commences to run everything pertaining to veterinary science in the United States, show us of what metal he is made; let him make a reputation as a man and a practitioner, and place himself above the need of informing the public that he is the son of his father and the first American graduate of Berlin in the United States.

Lastly, I can assure him that he need not worry about the time allowed graduates of other colleges, who repair to the "Holy of Holies branch of the original institution in Berlin"—they won't bother him.

There is but one degree toward which the graduate of the A. V. C. looks longingly; it is that of M.D., obtained by hard work from a good school. I am, Mr. Editor,

AN AMUSED GRADUATE OF THE A. V. C.

REVIEW.

"The Four Bovine Scurges," by Prof. Thomas Walley, F.R.C.V.S., Principal of Dick's Royal Veterinary College, Edinburgh, is before us. It is a commendable addition to English veterinary medical literature, for which the author deserves the thanks of all friends of the profession desirous of seeing veterinary surgery in English-speaking countries elevated to that position which it should occupy, and which it has already reached in many European countries.

This end can never be accomplished in so long as we consent to be mere followers in the footsteps of foreign scientific investigators. Original work must be prosecuted by ourselves, if we are to rank honorably among the leaders in the race for supremacy: and it is because of the long felt need that our literature in the English language should be unexcelled, as well as for the intrinsic worth of the work itself, that we cordially welcome our esteemed colleague to the ranks of English veterinary authors.

Two of the diseases treated upon, zymotic pleuro-pneumonia and tuberculosis, are so generally prevalent in the eastern part of the United States and are receiving so much attention by the public, that the conclusions deduced by the author from his experience with them will prove of unusual interest to the members of the profession in America, at this time.

Of the other two diseases of which the author has treated, happily the one most rapidly disastrous to cattle, rinderpest, is as yet unknown to this country; while with foot and mouth disease we have had but a short experience, so that while these diseases have not the same practical interest at the moment for us as the former two, they are, nevertheless, treated of in such a manner as to make them interesting to the reader.

The author's statements, both of facts and opinions, are for the most part succinctly made, and the style is easy and graceful; at the same time, when his opinions differ from those in general acceptance, they are boldly made and supported by conclusions

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THE A. V. C.

which a long experience and close observation have supplied.

Following the appendix and postscript will be found a number of colored plates which assist materially to a full comprehension of the various lesions presented by the diseases in question.

In the extract made by the author from the "Report of the Minister of Agriculture for the Dominion of Canada," two statements appear which are so at variance with the truth that we cannot refrain from calling attention to them. On page 210, third paragraph, reported by D. McEachran, Principal of the Montreal Veterinary College, the following, in reference to contagious pleuro-pneumonia, occurs: "Accompanied by Mr. Gadsden I visited New York and communicated with the Principal and Professors of the American Veterinary College, none of whom had any experience of the disease and doubted the correctness of the rumors of its existence," and on page 11 from the same source: "However, as remarked by Prof. Liautard, who up till now was sceptical of its existence, etc." The Review, to which Prof. McEachran is a subscriber, contains ample refutation of the above-quoted statements, and to its pages we refer the reader.

EXCHANGES, ETC., RECEIVED.

HOME EXCHANGES.—Scientific American, Hospital Gazette, Medical Record, Country Gentleman, Turf, Field and Farm, New York Rural, American Agriculturist, Prairie Farmer, Ohio Farmer, Practical Farmer, National Live Stock Journal, Medical and Surgical Reporter.

FOREIGN EXCHANGES.—Veterinarian, Veterinary Journal, Recueil de Medecine Veterinaire, Archives Veterinaires, Journal de Zootechnie, Gazette Medicale, Revue für Thierheilkunde und Thierzucht, La Clinica Veterinaria, Bericht über das Veterinarwesen.

NEWSPAPERS.—Western Sportsman, Vermont Record, New England Farmer, Scotsman (Edinburgh).

PAMPHLETS AND BOOKS.—Four Bovine Scourges, by Prof. Walley; Manual of Scientific Terms, by Stormouth; Ohio Statistics; Report of Board of Agriculture of Connecticut, 1878; Experimentar Beitray zur Lehre von der Putriden Intoxication und der Septicæmie; Über die Entwicklung der Spermatozoen der Wirbelthiere.